

NASA ADVISORY COUNCIL
National Aeronautics and Space Administration
Washington, DC 20546
Dr. Kenneth M. Ford, Chairman

July 29, 2009

Charles F. Bolden, Jr.
Administrator
National Aeronautics and Space Administration
Washington, DC 20546

Dear Administrator Bolden:

I am pleased to serve and support you and I hope to assist you in shaping the NASA Advisory Council (Council) to reflect your priorities.

The meeting of the Council in Washington, DC, July 14-16, 2009, was the first meeting in several years that the Council has had at least some portion of its Committee meetings open to the public. I believe this is a move in the right direction, and I am pleased with the conduct and transparency of these sessions. We also added several important discussions to the Council's public meeting. One such briefing was by the Acting NASA Administrator, the others were from Mr. Norman Augustine on the conduct of his current review of the U.S. Human Space Flight Plans, and from General Les Lyles on the recent report released from a study that he led for the National Academies study on the *"Rationale and Goals of the U.S. Civil Space Program."*

The Council and its six Committees had very productive meetings. These meetings culminated in the Council making one observation and three recommendations at its public meeting on July 16, at the Holiday Inn Capitol that we believe will be of assistance as NASA continues its implementation of its aeronautics and space exploration mission.

The Council will continue to monitor and consider future observations and recommendations that may be of assistance to you.

Observation

The NAC is encouraged by the ongoing assessment of advanced technology development in the agency. We look forward to a report on the "Innovation and Technology Initiative" addressing increased emphasis in this important area. We recommend that the NAC consider the results of this study at the next Council meeting.

Audit and Finance Committee Recommendation

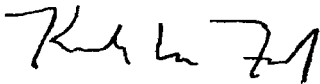
1. **NASA continues placing the high priority on effective financial management, accounting, and stewardship for NASA resources.** The NAC recommends that the new Administrator of NASA continue placing the high priority on effective financial management, accounting, and stewardship for NASA resources that have led to the valuable advances made in recent years in these matters at NASA.

Science Committee Recommendations

1. **Extend bilateral cooperation with ESA to include Earth Science.** Recommend that NASA collaborate with ESA to plan coordinated Earth science, applications and observation goals. Based on these goals and plans, identify specific opportunities for coordination of and collaboration on missions, research programs, and for data archival, distribution and exchange policies. The planning should involve corresponding operational agencies where appropriate.
2. **Managing Mars Science Laboratory (MSL) technical and cost challenges.** Recommend that NASA not allocate additional funds for MSL beyond the current level, pending planned reviews in fall 2009. Additionally, the NAC recommends that NASA document the lessons learned from MSL history relative to cost growth and technology issues to inform future developers of large, complex missions.

If there are any questions on the proceedings of our meeting, please contact me.

Sincerely,



Kenneth M. Ford
Chairman

Enclosures

NASA Advisory Council
Tracking Number: AF-09-01

Committee Chair: Mr. Robert Hanisee

Date of Public Deliberation: July 16, 2009

Date of Transmission: July 24, 2009

Short Title of the Recommendation

NASA continues placing the high priority on effective financial management, accounting, and stewardship for NASA resources.

Short Description of the Recommendation

The National Aeronautics and Space Administration's Advisory Council recommends that the new Administrator of NASA continue placing the high priority on effective financial management, accounting, and stewardship for NASA resources that have led to the valuable advances made in recent years in these matters at NASA.

Major Reasons for Proposing the Recommendation

Ensure leadership places a high priority on these matters to preserve valuable advances made in recent years in financial management, accounting, and stewardship.

Consequences of No Action on the Recommendation

Matters of financial management, accounting, and stewardship are not afforded the appropriate level of priority and focus to maintain the advances that have been made and that are vital to the future success of NASA.

Enclosure (1)

NASA Advisory Council
Tracking Number: SC-09-06

Committee Chair: Dr. Jack Burns

Date of Public Deliberation: 16 July 2009

Date of Transmittal: 24 July 2009

Short title of the proposed Recommendation:

Extend bilateral cooperation with ESA to include Earth Science.

Short description of proposed Recommendation:

Recommend that NASA collaborate with ESA to plan coordinated Earth science, applications and observation goals. Based on these goals and plans, identify specific opportunities for coordination of and collaboration on missions, research programs, and for data archival, distribution and exchange policies. The planning should involve corresponding operational agencies where appropriate.

Major reasons for proposing the Recommendation:

NASA and ESA have each advanced technical capabilities for space-based Earth observation, and seek to meet similar observing requirements. The expectations of both Agencies' stakeholders exceed each Agency's capacity (not capability), and yet the two agencies fly similar missions. The data exchange policies are uneven and lead to underutilization of the collected data. A substantial potential for synergy exists if organizational and policy barriers can be overcome.

Consequences of no action on the proposed Recommendation:

NASA and ESA will continue with unnecessarily duplicative programs when Earth observation and research needs are greater than any one nation or agency can accomplish. The overall observation of Earth System will be compromised.

Enclosure (2)

NASA Advisory Council
Tracking Number: SC-09-07

Committee Chair: Dr. Jack Burns

Date of Public Deliberation: 16 July 2009

Date of Transmittal: 24 July 2009

Short title of the proposed Recommendation:

Managing Mars Science Laboratory (MSL) technical and cost challenges

Short description of proposed Recommendation:

Recommend that NASA not allocate additional funds for MSL beyond the current level, pending planned reviews in fall 2009.

Additionally, the NAC recommends that NASA document the lessons learned from MSL history relative to cost growth and technology issues to inform future developers of large, complex missions.

Major reasons for proposing the Recommendations:

MSL has faced significant technical and schedule issues that resulted in its delay from its original 2009 launch opportunity to its current planned launch in 2011 (which was initially estimated to add \$400M to the cost of this flagship mission). There is considerable uncertainty around the costs associated with handling the remaining technical challenges, with estimates ranging from an additional \$15M to \$115M (above the \$400M mentioned above) needed to adequately fund reserves. NASA's Science Mission Directorate is closely monitoring the technical and schedule progress of MSL and anticipates that technical reviews in fall 2009 will provide greater clarity to key technical challenges facing MSL and will enable a more precise estimate of the additional reserve funds needed to complete this vital mission. Until the full extent of the additional reserves is known, it is difficult for the NAC to advise on the proper trades between funding alternatives.

The Planetary Science Division has compiled a very informative history (in PowerPoint slides) of MSL's technical challenges, programmatic decisions, and cost estimates. It is important to repackage this historical information into a narrative white paper that can properly capture this information for future developers of complex science missions. This will serve until the fuller lessons learned exercise planned by the Division for 2010 is complete. This white paper should be made a public document.

Enclosure (3)

Consequences of no action on the proposed Recommendation:

To reassign funds from other high-value science activities in advance of more precise estimates of the reserves needed for MSL may result in prematurely (and potentially unnecessarily) damaging other components of the already budget-stressed Planetary Science Division. We understand from the Planetary Science Division leadership that additional funds do not need to be reallocated to MSL reserves, barring any unforeseen changes, until the third quarter of Fiscal Year 2010.

The historical information contained in the charts presented to the Science Committee should be captured in a more narrative form to avoid having key points lost or misinterpreted due to the overly concise nature of the way they are currently communicated via PowerPoint slides.